



Virus Alert!

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Curriculum Area	Science
Subject Area	Biology
Grade Level	9 th grade
Learning Objectives	<ul style="list-style-type: none"> • The student will demonstrate an understanding of viruses and how they replicate. • The student will research viruses using the MIT <i>Biology Hypertextbook</i>. • The student will be able to answer specific questions concerning viruses and how they replicate.
Correlation to the SOL	Science BIO.5 C/T 12.2, 12.4
Video/Technology Hardware/Software Needed	<p>For class: Computer with Internet connection Computer Projection System Word Processing software (such as <i>Microsoft Word</i> or <i>ClarisWorks</i>)</p> <p>For each student: Computer with Internet connection Word Processing software (such as <i>Microsoft Word</i> or <i>ClarisWorks</i>) Drawing Software (such as <i>ClarisWorks</i> or <i>KidPix</i>)</p> <p>Web Site <i>The Biology Hypertextbook Chapters</i> http://esg-www.mit.edu:8001/chapters.html</p>
Materials Required	<p>For each student: Electronic worksheet available on each student computer workstation</p>
Procedures/Activities	<ol style="list-style-type: none"> 1. Prior to class, load the electronic worksheet template and bookmark the <i>The Biology Hypertextbook Chapters</i> Web site on each workstation. 2. Demonstrate for the class how to find the <i>Biology Hypertextbook</i> Web site. 3. Review the electronic worksheet with students. Demonstrate how to open the electronic worksheet using the word processing software, how to insert data (using various editing features), and how to save the changed document. 4. Have students access the <i>Biology Hypertextbook</i> Web site and collect the information outlined on the electronic worksheet.

	<p>5. Using drawing software available to them, students create their own version of a diagram of the lytic and lysogenic pathways.</p> <p>6. Students insert their drawing into the electronic worksheet before printing it out to hand in.</p>
Content Assessment	Use the students' printed worksheets to evaluate their work.
Technology Integration Assessment	The teacher will observe the student use of the computer to collect information, complete the drawing and import it into his/her worksheet.
Extensions	<p>Research Skills/Writing: In collaboration with the English teacher, expand the assignment to include a research paper on viruses.</p> <p>Technology: Have students create an electronic presentation about viruses to give to younger students.</p> <p>Current Events: Students research current news about the AIDS virus and prepare a video report for World AIDS day.</p>

STUDENT INSTRUCTIONS FOR “VIRUS ALERT”

Use the following web page to learn about viruses:

<http://esg-www.mit.edu:8001/chapters.html>

Click on “Cell Biology”.

Click on “Basic Virus Structure”.

Read the information on viruses. Click on “NEXT” and read the information on phage replication. Answer the following questions:

1. What does the word “virus” mean?
2. What is a bacteriophage?
3. What are the two pathways by which viruses can replicate?
4. How do the lytic and lysogenic pathways differ?